water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

Response: The proposed project is not located near or on agricultural lands; therefore, this chapter does not apply.

APPENDIX C - PERTINENT CORRESPONDENCE



United States Department of the Interior



FISH AND WILDLIFE SERVICE

South Florida Ecological Services Office P.O. Box 2676 Vero Beach, Florida 32961-2676

October 4, 2000

James C. Duck Chief, Planning Division Jacksonville District Corps of Engineers P.O. Box 4970 Jacksonville, Florida 32232-0019

> Service Log No.: 4-1-00-F-701 Cross Reference No.: 4-1-96-F-268

Public Notice Date: June 1, 2000

Project: 63rd Street Renourishment

Local Sponsor: Miami-Dade County County: Miami-Dade

Dear Mr. Duck:

The Fish and Wildlife Service (Service) has reviewed the plans submitted for the project referenced above. The project has the potential to affect four species of sea turtles. Florida's beaches function as nesting habitat for the threatened loggerhead turtle (*Caretta caretta*) as well as the endangered green turtle (*Chelonia mydas*), leatherback turtle (*Dermochelys coriacea*), and hawksbill turtle (*Eretmochelys imbricata*).

Your letter, dated June 5, 2000, states that the Biological Opinion (BO) dated October 24, 1996, for Region III of the Coast of Florida Erosion and Storm Effects Study includes the project area considered for the proposed renourishment. You also proposed that the "Reasonable and Prudent Measures" and "Terms and Conditions" listed in the BO that are applicable for Miami-Dade County apply to the proposed renourishment, and that you plan to incorporate these requirements into the project plans and specifications and any contracts as appropriate. You also requested concurrence on this determination. This letter is provided in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA).

The Coast of Florida Biological Opinion, dated October 24, 1996, is a Programmatic Biological Opinion that addresses beach nourishment impacts to sea turtles in Palm Beach, Broward, and Miami-Dade counties. The BO states that separate biological opinions will be prepared for individual projects as more advanced planning and information becomes available.

The Service agrees with the determination that the project limits are within the area defined in the Coast of Florida BO, however, Service guidance on section 7 consultations on sea turtles has been revised and has resulted in project specific changes in the "Reasonable and Prudent Measures" and "Terms and Conditions" of the Coast of Florida BO. The following sections of the Coast of Florida BO have been changed. All other parts of the Coast of Florida BO are applicable to the 63rd Street Renourishment Project.

Lighting Term and Condition (Term and Condition 7)

From April 1 to November 30, all on-beach lighting associated with the project shall be limited to the immediate area of active construction only and shall be the minimal lighting necessary to comply with safety requirements. Shielded low pressure sodium vapor lights are recommended to minimize illumination of the nesting beach and nearshore waters. Lighting on offshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all U.S. Coast Guard and OSHA requirements. Shielded low pressure sodium vapor lights are highly recommended for lights on offshore equipment that cannot be eliminated.

Incidental Take Statement

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered or threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document,

the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the action and its impacts on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Incidental Take

The Service has reviewed the biological information and other information relevant to this action. Based on this review, incidental take is anticipated for (1) all sea turtle nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) all sea turtle nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (4) disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (5) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; (6) all nests destroyed as a result of escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service; and (7) reduced hatching success due to egg mortality during relocation and adverse conditions at the relocation site

Incidental take is anticipated for only 0.53 miles (2,800 feet) of beach that have been identified for sand placement. The Service anticipates incidental take of sea turtles will be difficult to detect for the following reasons: (1) the turtles nest primarily at night and all nests are not found because [a] natural factors, such as rainfall, wind, and tides may obscure crawls and [b] human-caused factors, such as pedestrian and vehicular traffic, may obscure crawls, and result in nests being destroyed because they were missed during a nesting survey and egg relocation program; (2) the total number of hatchlings per undiscovered nest is unknown; (3) the reduction in percent hatching and emerging success per relocated nest over the natural nest site is unknown; (4) an unknown number of females may avoid the project beach and be forced to nest in a less than optimal area; (5) lights may disorient an unknown number of hatchlings and cause death; and (6) escarpments may form and cause an unknown number of females from accessing a suitable nesting site. However, the level of take of these species can be anticipated by the disturbance and renourishment of suitable turtle nesting beach habitat because: (1) turtles nest within the project site; (2) beach renourishment will likely occur during a portion of the nesting season; (3) the renourishment project will modify the incubation substrate, beach slope, and sand compaction; and (4) artificial lighting will disorient nesting females and hatchlings.

Terms and Conditions - Summation Paragraph

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. The amount or extent of incidental take for sea turtles will be considered exceeded if the project results in more than a one-time placement of sand on the 0.53 miles (2,800 feet) of beach proposed for nourishment. If during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

This concludes formal consultation with the Service for the 63rd Street Beach Renourishment Project. Thank you for your cooperation in the effort to protect threatened and endangered sea turtles and their nesting habitat. We are available to meet with agency representatives to resolve outstanding resource issues associated with this project. If you have any questions, please contact Mr. Allen Webb at (561) 562-3909 extension 246.

Sincerely yours,

Thoma Estell

James J. Slack

Field Supervisor

South Florida Ecological Services Office

cc:

NMFS, Mike Johnson, Miami, FL (w/o enclosure)
EPA,West Palm Beach, FL (w/o enclosure)
Service, Sandy Macpherson, Jacksonville, FL (w/o enclosure)
FWC, Robbin Trindell, Tallahassee, FL (w/o enclosure)
FDEP, Keith J. Mille, Tallahassee, FL (w/o enclosure)
Miami-Dade County DERM, Miami, FL (w/o enclosure)



STATE OF FLORIDA

DEPARTMENT OF COMMUNITY AFFAIRS

"Dedicated to making Florida a better place to call home"

JEB BUSH Governor STEVEN M. SEIBERT Secretary

March 27, 2000

Mr. James C. Duck, Chief
Department of the Army
Jacksonville District Corps of Engineers
Planning Division
Post Office Box 4970
Jacksonville, Florida 32232-0019

RE: Department of the Army - District Corps of Engineers Public Notice - Renourishment at Haulover Beach Park Dade County Beach Erosion Control and Hurricane
Protection Project - Miami-Dade County, Florida
SAT: FL200002080063C

Dear Mr. Duck:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above-referenced project.

Based on the information contained in the application and the enclosed comments provided by our reviewing agencies, the state has determined that, at this stage, the above-referenced project is consistent with the Florida Coastal Management Program. The South Florida Water Management District notes that, under the operating agreement between the Department of Environmental Protection (DEP) and the water management districts, this project will be reviewed by DEP. A final determination will be made during the state's permit review. All comments received to date from our reviewing agencies, and the South Florida Regional Planning Council, are enclosed for your review.

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0781/Suncom 291.0781
Internet address: http://www.dca.state.fl.us

Mr. James C. Duck March 27, 2000 Page Two

Thank you for the opportunity to review this application. If you have any questions regarding this letter, please contact Ms. Cherie Trainor, Clearinghouse Coordinator, at (850) 922-5438.

Sincerely,

Ralph Cantral, Executive Director Florida Coastal Management Program

RC/cc

Enclosures

cc: Jim Golden, South Florida Water Management District Eric Silva, South Florida Regional Planning Council

Y: Miami-Dade Message:		DATE: ÆNTS DUE-3 WKS: ARANCE DUE DATE: SAI#:	02/08/20 00 03/01/20 00 03/23/20 00 FL200002080063
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March 1, 2000

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Ms. Cherie Trainor Florida State Clearinghouse Department of Community Affairs 2555 Shumard Oak Boulevard Tallahassee, FL 32399-2100

RE: SFRPC #00-0216, SAI #FL200002080063 - Response to a request for comments on the Haulover Beach Park segment of the Miami-Dade County Beach Erosion Control and Hurricane Protection Project, Department of the Army, Miami-Dade County.

Dear Ms. Trainor:

We have reviewed the above-referenced project and have the following comments:

- The project methodology and design, as proposed, is generally consistent with the goals and policies of the *Strategic Regional Policy Plan for South Florida* (SRPP). Council staff supports the implementation of beach renourishment projects for the purposes of providing storm protection for upland property, restoring dunes and maintaining eroding beaches.
- Beaches and dune systems are identified as natural resources of regional significance in the SRPP. Staff supports the use of buffer zones to protect these important resources. Sand movement and downdrift erosion should be monitored on a region wide basis to ensure the livelihood of wildlife habitats and the stability of the project area. All actions should be consistent with the goals and policies of the Miami-Dade County comprehensive plan.
- Staff recommends that, if the proposed actions are implemented, 1) impacts to the natural systems be minimized to the greatest extent feasible and 2) the permit grantor determine the extent of sensitive marine life and vegetative communities in the vicinity of each project and require protection and or mitigation of disturbed habitat. These guidelines will assist in reducing the cumulative impacts to native plants and animals, wetlands and deep-water habitat and fisheries that the goals and policies of the Strategic Regional Policy Plan for South Florida seek to protect.
- The goals and policies of the *Strategic Regional Policy Plan for South Florida*, in particular those indicated below, should be observed when making decisions regarding this project.

Strategic Regional Goal

3.1 Eliminate the inappropriate uses of land by improving the land use designations and utilize land acquisition where necessary so that the quality and connectedness of Natural Resources of Regional Significance and suitable high quality natural areas is improved.

Regional Policies

- 3.1.1 Natural Resources of Regional Significance and other suitable natural resources shall be preserved and protected. Mitigation for unavoidable impacts will be provided either onsite or in identified regional habitat mitigation areas with the goal of providing the highest level of resource value and function for the regional system. Endangered faunal species habitat and populations documented on-site shall be preserved on-site. Threatened faunal species and populations and species of special concern documented on-site, as well as critically imperiled, imperiled and rare plants shall be preserved on-site unless it is demonstrated that off-site mitigation will not adversely impact the viability or number of individuals of the species.
- 3.1.9 Degradation or destruction of Natural Resources of Regional Significance, including listed species and their habitats will occur as a result of a proposed project only if:
 - a) the activity is necessary to prevent or eliminate a public hazard, and
 - b) the activity is in the public interest and no other alternative exists, and
 - c) the activity does not destroy significant natural habitat, or identified natural resource values, and
 - d) the activity does not destroy habitat for threatened or endangered species, and
 - e) the activity does not negatively impact listed species that have been documented to use or rely upon the site.
- 3.1.10 Proposed projects shall include buffer zones between development and existing Natural Resources of Regional Significance and other suitable natural resources. The buffer zones shall provide natural habitat values and functions that compliment Natural Resources of Regional Significance values so that the natural system values of the site are not negatively impacted by adjacent uses. The buffer zones shall be a minimum of 25 feet in width. Alternative widths may be proposed if it is demonstrated that the alternative furthers the viability of the Natural Resource of Regional Significance, effectively separating the development impacts from the natural resource or contributing to reduced fragmentation of identified Natural Resources of Regional Significance.

Strategic Regional Goal

3.4 Improve the protection of upland habitat areas and maximize the interrelationships between the wetland and upland components of the natural system.

Regional Policies

- 3.4.4 Require the use of ecological studies and site and species specific surveys in projects that may impact natural habitat areas to ensure that rare and state and federally listed plants and wildlife are identified with respect to temporal and spatial distribution.
- 3.4.5 Identify and protect the habitats of rare and state and federally listed species. For those rare and threatened species that have been scientifically demonstrated by past or site specific studies to be relocated successfully, without resulting in harm to the relocated or receiving populations, and where *in-situ* preservation is neither possible nor desirable from an ecological perspective, identify suitable receptor sites, guaranteed to be preserved and managed in perpetuity for the protection of the relocated species that will be utilized for the relocation of such rare or listed plants and animals made necessary by

- unavoidable project impacts. Consistent use of the site by endangered species, or documented endangered species habitat on-site shall be preserved on-site.
- 3.4.8 Remove invasive exotics from all Natural Resources of Regional Significance and associated buffer areas. Require the continued regular and periodic maintenance of areas that have had invasive exotics removed.
- 3.4.9 Required maintenance shall insure that re-establishment of the invasive exotic does not occur.

Strategic Regional Goal

3.8 Enhance and preserve natural system values of South Florida's shorelines, estuaries, benthic communities, fisheries, and associated habitats, including but not limited to, Florida Bay, Biscayne Bay and the coral reef tract.

Regional Policies

- Enhance and preserve natural shoreline characteristics through requirements resulting from the review of proposed projects and in the implementation of ICE, including but not limited to, mangroves, beaches and dunes through prohibition of structural shoreline stabilization methods except to protect existing navigation channels, maintain reasonable riparian access, or allow an activity in the public interest as determined by applicable state and federal permitting criteria.
- 3.8.2 Enhance and preserve benthic communities, including but not limited to seagrass and shellfish beds, and coral habitats, by allowing only that dredge and fill activity, artificial shading of habitat areas, or destruction from boats that is the least amount practicable, and by encouraging permanent mooring facilities. Dredge and fill activities may occur on submerged lands in the Florida Keys only as permitted by the Monroe County Land Development Regulations. It must be demonstrated pursuant to the review of the proposed project features that the activities included in the proposed project do not cause permanent, adverse natural system impacts.
- 3.8.3 As a result of proposed project reviews, include conditions that result in a project that enhances and preserves marine and estuarine water quality by:
 - a) improving the timing and quality of freshwater inflows;
 - b) reducing turbidity, nutrient loading and bacterial loading from wastewater facilities and vessels;
 - c) reducing the number of improperly maintained stormwater systems; and
 - d) requiring port facilities and marinas to implement hazardous materials spill plans.
- 3.8.4 Enhance and preserve commercial and sports fisheries through monitoring, research, best management practices for fish harvesting and protection of nursery habitat and include the resulting information in educational programs throughout the region. Identified nursery habitat shall be protected through the inclusion of suitable habitat protective features including, but not limited to:

Ms. Cherie Trainor March 1, 2000 Page 4

- a) avoidance of project impacts within habitat area;
- b) replacement of habitat area impacted by proposed project; or
- c) improvement of remaining habitat area within remainder of proposed project area.
- 3.8.5 Enhance and preserve habitat for endangered and threatened marine species by the preservation of identified endangered species habitat and populations. For threatened species or species of critical concern, on-site preservation will be required unless it is demonstrated that off-site mitigation will not adversely impact the viability or number of individuals of the species.

Thank you for the opportunity to comment. We would appreciate being kept informed on the progress of this project. Please do not hesitate to call if you have any questions or comments.

Sincerely

Eric Silva Senior Planner

ES/ms

cc: Guillermo E. Olmedillo, Miami-Dade County Jean Evoy, Miami-Dade County DERM James C. Duck, USACE



UNITED STATES DEPARTMENT OF COMMER CE National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE Southeast Regional Office 9721 Executive Center Drive North St. Petersburg, FL 33702 (727) 570-5312, FAX 570-5517

MAR 1 3 2000

F/SER3:JBM

Mr. James C. Duck Chief, Planning Division Jacksonville District Corps of Engineers P.O. Box 4970 Jacksonville, Florida 32232-0019

Dear Mr. Duck:

This responds to your letter dated March 1, 2000 concerning the impacts to endangered and threatened species or their critical habitat as a result of the proposed renourishment at Haulover Beach Park, Dade County, Florida. To evaluate the environmental effects as a result of the proposed project, you have requested consultation pursuant to section 7 of the Endangered Species Act of 1973 (ESA), as amended.

We concur with your determination that this type of activity is covered under the biological opinion (BO) on hopper dredging along the Southeast Atlantic Coast, issued by the National Marine Fisheries Service (NMFS) in 1995, and amended on September 25, 1997. The BOs analyzed the effects of hopper dredging in channels and borrow areas and concluded that their use would not jeopardize the continued existence of species of sea turtles protected by the ESA. NMFS believes the regional BOs adequately address the work being proposed by this project.

This concludes consultation responsibilities under section 7 of the ESA. Consultation should be reinitiated if new information reveals impacts of the identified activity that may affect listed species or their critical habitat, a new species is listed, the identified activity is subsequently modified or critical habitat determined that may be affected by the identified activity.

If you have any questions or concerns, please contact Eric Hawk, fishery biologist, at the number listed above.

Sincerely,

William T. Hogarth, Ph.D. Regional Administrator

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cc: F/PR2, F/SER4 1514-22 f.1. O:\SECTION7\INFORMAL\HAULOVER..JAX





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

WATER MANAGEMENT DIVISION SOUTH FLORIDA OFFICE 400 NORTH CONGRESS AVE., SUITE 120 WEST PALM BEACH, FLORIDA 33401

March 2, 2000

Mr. James C. Duck Chief, Planning Division U.S. Army Corps of Engineers Planning Division P.O. Box 4970 Jacksonville, FL 32232-0019

Dear Mr. Duck:

This is in response to your request for comments on a proposed project to renourish the Haulover Beach Park segment of the Dade County Beach Erosion Control and Hurricane Protection Project, Dade County, Florida. Our general concern with beach nourishment projects is that they are attempts to stabilize an inherently unstable coastal system. Also, destruction of the primary dune system by development, construction of jetties and seawalls, and construction and maintenance of inlets have upset the dynamic balance of coastal sediments. It is our opinion that the remediation of causes of the disruption to natural movements of coastal sediments should be addressed and compared to the perceived need to "hurricane proof" a shoreline through a massive dredging and disposal project.

Your letter provides a general discussion of the proposal project and alternatives. It is our understanding that greater detail of the project will be presented in the forthcoming Environmental Assessment (EA). We will evaluate the EA for conformance with the Section 404(b)(1) Guidelines which include avoidance and minimization of impacts to aquatic resources, and compensation for unavoidable losses. We recommend that the EA thoroughly address the need for this project, and include a detailed analysis of alternatives and the impacts of the project on aquatic resources at the borrow site and disposal site.

Thank you for the opportunity to provide these preliminary comments on the proposed project. If you have any questions, please contact Bill Kruczynski, of my staff, at (305) 743-0537.

Sincerely,

Richard Harvey, Director

South Florida Office



ReefKeeper® International

PHONE

(305)358-4600 (305)358-3030

E-MAIL

reefkeeper@reefkeeper.org

WEB SITE

http://www.reefkeeper.org

OPERATIONS CENTER

PMB 162 2809 Bird Avenue Miami, FL 33133

LATIN AMERICA & CARIBBEAN REGION

PMB 321 703 Belt Road, Ramey Aguadilla, PR 00603-1333

March 2, 2000 **Operations Center**

James C. Duck Chief, Planning Division Jacksonville District Corps Of Engineers P.O. Box 4970 Jacksonville, FL 32232-0019

> RE: Renourishment at Haulover Beach Park

Dear Mr. Duck:

In response to the public notice of the preparation of an Environmental Assessment (EA) for the renourishment of Haulover Beach Park as part of the Dade County Beach Erosion Control and Hurricane Protection Project, ReefKeeper International requests that the Environmental Assessment (EA) for this project include an evaluation of the following issues:

- locations of coral reefs and hardbottom communities;
- dredging buffer zones;
- risks during night dredging;
- use of reef protection areas;
- best pipeline placement;
- shape of borrow area;
- coral reef specific water quality requirements;
- use of turbidity barriers and turbidity buffer zones;
- sand quality and fines content;
- use of upland sand sources;
- use of inlet sand source;
- monitoring requirements;
- mitigation requirements; and
- reduction in scope of project.

ReefKeeper International, founded in 1989, is a non-profit organization dedicated to the protection of coral reefs and their marine life.

Survey Required - Coral Reefs and Hardbottoms Present

The seafloor near the proposed borrow areas and adjacent to the beach to be renourished contains significant coral reefs and hardbottom communities. Corals can grow as slowly as 1/5 to 1 millimeter per year (McConnaughey, 1983), with a knee-high coral head possibly being hundreds of years old. These characteristically slow growth rates simply mean that scleractinian reef-building corals are not a renewable resource on a biological time scale but rather should be viewed on a geological time scale.

Therefore, corals should not be put at risk of destruction from dredging and beach renourishment activities. ReefKeeper International requests that mapping of all coral reefs and hardbottom areas near the proposed project area be conducted to determine the location and extent of these important features. This mapping should adequately characterize and quantify the bottom cover in the specific locations.

Use of Dredging Buffer Zones

Past experience shows that physical dredging damage does occur during beach renourishments. In fact, coral reefs are most damaged by dredging. Poorly planned and implemented dredging operations have caused the demise of many reefs. Straughan (1972) condemned dredging for the destruction of some Florida Keys reefs. Poor planning at a beach renourishment dredging project off Hallandale, Florida resulted in reef burial.

Blair and Flynn (1988) documented the destruction by direct dredge impact of 2 acres of coral reef at a previous beach renourishment project in the Sunny Isles area. In 1988, two acres of natural coral reef were damaged or destroyed by a dredge during the rebuilding of Miami's Sunny Isles Beach. The damage was depicted as some of the most severe reef destruction in modern South Florida history, according to Carlos Espinosa, then Chief of the Water Management Division of the county's Department of Environmental Resources Management.

The dredging company had orders to draw sand from a strip of sea bottom between two reefs parallel to shore. Round the clock, seven days a week, a huge ship floated along the narrow corridor, sucking up sand.

Even though the dredging zone was established with dredging barge paths no closer than 200 feet to the nearest coral areas, this did not prevent the damage. The dredge strayed off its charted course and plowed as much as 150 feet into coral habitat without the dredge operators' knowledge of it. The dredge was pulled over the reef numerous times, in a path of destruction in some places 350 feet wide (Blair and Flynn, 1988). Even when chunks of broken coral began spewing out of the dredge suction pipe, the barge operators assumed it was relic material buried under the sand pocket they were working.

Errors and accidents do occur. They have in the past. And they will happen again if proper safeguards are not in place. Therefore, ReefKeeper International requests that the EA include an evaluation of adequate and precautionary dredging buffer zones around coral ecosystems.

Risks of Impact Due to Night Dredging Operations

For economic and time constraint reasons, dredging is often conducted around the clock for beach renourishment projects. Past projects have utilized lighted buoys that are often placed along the hardbottom areas to mark a dredge's path. However, these lighted buoys do not prevent the dredge from entering the coral areas or from damaging them. The lighted buoys give only a visual demarcation of the hardbottom.

ReefKeeper International requests that the EA assess the probability that the dredge will pass through a buoy line or other dredge path markers during nighttime dredging

operations and quantify the damage that would occur. If the dredge were to stray from its path, it would inevitably damage the surrounding coral communities before being able to turn.

ReefKeeper International further requests that the EA consider the risks of night dredging and the advantages of prohibiting this activity. The EA should quantify the probability of impact to the reefs as well as the probability of damage from nighttime dredging as opposed to daytime dredging.

Reef Protection Zones Should be Considered

Dredging is not the only activity conducted during beach renourishments that has the potential to adversely impact coral reefs and hardbottom communities. Construction vessels can run aground or scrape corals as they maneuver to, from, and around the dredge site. Heavy anchors can destroy corals on which they land.

Therefore, ReefKeeper International requests that the EA consider the implementation of "reef protection zones" so that reefs and hardbottom habitats are further protected from non-dredging activities such as construction vessel movement, anchoring, and spudding. All of these non-dredging activities should be prohibited in reef protection zones to protect these fragile resources.

Potential Habitat Destruction Due to Pipeline Placement

The presence of the pipeline used to move the sand on top of corals can damage, if not kill, these fragile marine organisms. Direct physical placement can crush corals and other reef organisms. The continued presence of the pipeline will shade corals, which are dependent upon sunlight for their survival.

ReefKeeper International requests that the EA include an evaluation of the potential adverse impacts by the pipeline used to move the sand. Quantification and a quality evaluation of any hardbottom habitat that would be covered should be included. If at all physically possible, damage should be avoided by routing the pipeline around corals -- or by using sand from a different source.

Risks Due to Shape of Borrow Site

Designs necessitating sharp turns within the borrow area may cause the dredge to stray from its path and onto the coral reefs and hardbottoms. The feasibility of the dredge being able to move out of the borrow area before turning to start a new dredge pass so it can make its re-entry turns in a wider, safer area should be fully investigated.

ReefKeeper International requests that the EA include an evaluation of the risks associated with the shape of the proposed borrow areas. If possible, the shapes should be rectangular with adequate area at each end of the borrow area to allow for maneuvering of the dredge vessel.

Coral-Specific Water Quality Requirements

Hard corals, in particular, are susceptible to the effects of elevated levels of turbidity due to dredging (Dodge et al., 1974; Loya, 1976; Dodge and Vaisnys, 1977; Bak, 1978;

Lasker, 1980; Marszalek, 1981; Rogers, 1983). High turbidity resulting from fine suspended particles generated by dredging decreases the amount of light -- a vital source of energy -- available to corals for the photosynthetic fixation of calcium carbonate (Johannes, 1975), thus reducing coral calcification (growth) rates (Lasker, 1980).

Turbidity also clogs the filter feeding mechanisms of coral polyps and causes continual energy losses by the necessity of continuous shedding of the protective mucus layer secreted by coral polyps (Lasker, 1980; Dallmayer et al., 1982).

Silt created by dredging remains in the local area for long periods and is resuspended during storms. Natural resuspension can also be compounded by the presence of silt fill discharged at the dredge site.

Moreover, sediments excavated by dredging are often anaerobic and bind up available dissolved oxygen. This forces reef organisms to increase respiration to remove silt, further lowering dissolved oxygen levels. Coupled with this increased respiration is reduced photosynthesis and oxygen production due to lowered light levels.

The usual result of chronic sedimentation is stressed corals susceptible to disease. The quantity of turbidity and the length of time required for exertion of its maximum stress effect is not known, but corals that are stressed expel essential symbiotic zooxanthellae and take on a pallid appearance prior to mortality (Goreau, 1964; Rogers, 1979; Glynn et al., 1984). Generally, mortality ensues within six weeks of such reactions.

Therefore, ReefKeeper International requests that the EA incorporate criteria specifically responsive to coral reef water quality requirements. Consideration of water quality requirements for corals will help prevent "unforeseen" negative impacts and will allow for the establishment of water quality criteria that are appropriate for the ecosystem.

Turbidity Buffer Zones and Turbidity Barriers

Poor planning at a beach renourishment dredging project off Hallandale, Florida resulted in reef burial and water quality problems (Courtenay et. al. 1974). The 1990 beach renourishment project at Bal Harbour resulted in catastrophic sedimentation burial of coral reef areas near the dredging site (Blair et. al., 1990). Similar destruction may occur at the proposed dredging site.

Given the history of adverse turbidity impacts during dredging projects and the severe damage to corals that results from poor water quality, ReefKeeper International requests that the EA evaluate the use of turbidity buffer zones and turbidity barriers. These measures should be incorporated into the project to minimize and monitor turbidity loads over the coral reefs adjacent to the dredging site, and to prevent fatal turbidity impacts to those coral reefs. Researchers have recommended buffer zones of up to half-a-nautical-mile to protect coral reefs from dredging siltation (Griffin 1974; Courtenay et al. 1974).

Adequate Determination of Sand Quality

The presence of too much fine-grained sand and silt in the borrow areas can have devastating effects on corals. During the dredging operation, this material will become

suspended in the water column, creating unacceptable turbidity levels. Once on this beach, these "fines" will be easily washed away and redeposit on the coral reefs and hardbottom communities.

Therefore, ReefKeeper International requests that the EA include sufficient testing of the borrow sand to ensure that the sand does not contain too much "fines". Representative testing in a number of locations and depths within the borrow areas should be conducted.

Availability of Upland Sand Sources for this Project

Upland sources of sand in Florida can provide medium to fine grained quartz sand. Upland sources have the benefits of not requiring the separation and disposal of larger-sized particles, reducing overfill and improving turbidity conditions at the deposition site due to its lower silt content, eliminating any environmental risks and impacts to offshore coral reef areas from dredging, and eliminating the need to mitigate.

ReefKeeper International requests that the EA fully evaluate the availability and economic feasibility of sand from upland sources. There must be a full presentation, comparative analysis and accounting that equitably compares the use of these upland sand sources with the use of the high-risk offshore borrow areas. Such a comparison must clearly show and take into account all the operational savings attributable to the use of the upland sand source -- such as no mitigation cost and no offshore rock disposal cost -- as well as the added values accruing from higher quality sand, eliminated risks to reefs, and more.

Potential Use of Inlet Sand to Supplement Renourishment

The proposed project location is near the Bakers Haulover Inlet. Inlets of this type often require periodic maintenance dredging to maintain depths necessary for navigation. Since these inlets are sand depositional environments and are often subjected to high water movement and dredging activities, they are generally not dominated by hardbottom communities. Currently, sand removed during maintenance dredging is usually dumped offshore.

ReefKeeper International requests that the EA include an evaluation of the potential of using maintenance dredged sand to supplement the proposed beach renourishment. Although there may be insufficient quantities to complete the entire project, the use of inlet sand may greatly reduce the size of the borrow areas required for this project.

Monitoring Requirements Must be Evaluated

Damage to coral reefs and hardbottom communities can only be detected if an adequate monitoring program is in place. Monitoring must be conducted before any dredging activities are initiated to determine the "baseline" conditions. Monitoring during the dredging is critical to identifying problems and preventing additional damage. Monitoring after the dredging is complete is important in determining long-term impacts of the project.

ReefKeeper International requests that the EA evaluate monitoring requirements for the coral reefs and hardbottom communities. Monitoring should be conducted before, during, and after the project to adequately determine the impacts.

Determination of Mitigation Requirements

One cannot assume that any dredging project will be conducted perfectly as planned and without a hitch. It is likely that the current nearshore area contains corals that will be covered during the renourishment activities. It is also likely that some corals will be adversely impacted during the dredging.

Therefore, ReefKeeper International requests that an adequate evaluation of possible mitigation measures to compensate for errors, unforeseen circumstances, and lost habitat be included in the EA prior to the initiation of the project. ReefKeeper International requests that this include an evaluation of the feasibility of relocating all coral colonies that may be covered by the pipeline or are within buffer zone areas. To mitigate for stony coral mortality from coral relocation, and for general destruction of benthic biota, any proposed concrete and limestone modules should be deployed on more than a 1-to-1 basis at locations where the deployment would provide new hard substrate for the settlement of new corals and other benthic organisms.

Potential Reduction in Scope of Project

The project as proposed calls for the placement of 114,000 cubic yards of material at Haulover Beach Park, extending the beach hundreds of feet into the ocean. The vast extent of the renourishment from the current shoreline only increases the adverse impacts to marine life from this project.

Therefore, ReefKeeper International requests that the EA include an evaluation of a potential reduction in the size of the project. A project smaller in width may necessitate more frequent renourishing and the potential costs and benefits of this should be examined. The potential use of sand dredged from nearby inlets may make smaller, more frequent renourishment activities both economically and environmentally more viable than the current proposed project.

Thank you very much for your consideration, and anticipated support, of our requests for the inclusion in the Environmental Assessment of measures to protect the fragile coral reefs and hardbottom communities of Miami-Dade County, Florida.

Sincerely,

Diane M. Rielinger Senior Policy Associate ReefKeeper International

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Planning Division Environmental Branch

MAR 0 1 2000

Mr. Charles Oravetz Chief, Protected Species Management Branch National Marine Fisheries Service 9721 Executive Center Drive, North St. Petersburg, Florida 33702

Dear Mr. Oravetz:

This is in reference to the Dade County Beach Erosion Control and Hurricane Protection Project and the proposed renourishment at Haulover Beach Park. For a description of the proposed action, please refer to the enclosed public notice dated February 3, 2000. Also reference the Regional Biological Opinion (RBO) on hopper dredging along the Southeast Atlantic Coast as amended on September 25, 1997.

The U.S. Army Corps of Engineers has determined that the proposed renourishment activities are covered by the referenced RBO and no further consultation with the National Marine Fisheries Service under Section 7 of the Endangered Species Act is required at this time. Your concurrence on this determination is requested.

If you have any questions or need any additional information, please contact Mr. Mike Dupes at 904-232-1689.

Sincerely,

James C. Duck Chief, Planning Division

Enclosure

bcc:

CESAJ-DP-I (Stevens)

February 29, 2000

Mr. James Duck, Chief Planning Division Department of the Army Jacksonville District Corps of Engineers P.O. Box 4970 Jacksonville, FL 32232-0019



SUBJECT: Renourishment At Haulover Beach Park, a Miami-Dade County Beach Erosion Control
And Hurricane Protection Project

REFERENCE: REQUEST FOR A PUBLIC HEARING

attachments: PETITIONS FOR BEACH RENOURISHMENT (89 pages, 442 Signatures)

Dear Mr. Duck:

Please accept this letter as our request for a public hearing. To conform with the criteria of the Army Corps of Engineers for a public hearing we submit the following *Evaluation Factors*. Please consider the following input on the need to renourish the beach at Haulover Beach Park as our reason for requesting a public hearing. Specifically, the northern end of the beach at Haulover Beach Park. Our association members and the general public have been using this beach in increasing numbers for the past 9 years. We have witnessed the gradual erosion of the beach and estimate over 50 feet or more of beach has eroded during this time. This erosion has been caused by hurricanes, severe storms and other natural phenomenon including tides and natures normal beach erosion.

This beach meets the criteria for calling a public hearing and for sand replenishment for the following reasons:

* General Environmental Concerns. The erosion over the past 10 years has endangered the protected sand dune and sea grape areas. It brings the ocean closer to Evacuation Route A1A and endangers the escape route during a storm of hurricane proportions. If not renourished, it will endanger the planned renourishment of Sunny Isles Beach. Haulover, by having a shoreline over 100 feet west of the planned Sunny Isles Beach shoreline, would cause the rapid movement and erosion of the Sunny Isles Beach, by causing the sand to migrate south. This movement would jeopardize the integrity of the Sunny Isles Beach sand renourishment project on its most southern boundary thus voiding its intended purpose.

This would have a domino effect on the whole of Sunny Isles Beachs'.

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Mr. Duck Army Corps 2/29/00 page 2

* Fish and Wildlife Values.

Haulover Beach Park is an important spawning ground for sea turtles and they must have an adequate size beach in which to lay their eggs.

* Flood Hazards.

The beach at its present size may not be able to prevent flood waters created by ocean storms from washing over "Evacuation Route" A1A.

* Land Use.

Haulover Beach Park is a major regional park within the park system of Miami-Dade County and is one of the few oceanfront parks left in Miami-Dade County. With the build out of all the land north and south of Haulover Beach Park, this is the last remaining beach/park area available to the public. Its current land use should be protected by beach renourishment and preserved.

* Shoreline Erosion and Accretion.

The shoreline has had substantial erosion. Sand renourishment is needed to restore the shoreline so that it will be on an equal distance from the county's landside survey line which runs from the south end of Miami Beach Government Cut to the north boundary of Sunny Isles Beach. This renourishment is needed to protect the integrity of all the other beach renourishment projects on this shoreline.

* Recreation.

The northern 1/4 mile of Haulover Beach Park now sees over 1.1 million visitors a year. It is the most popular recreational beach in Miami Dade County. The beach renourishment is needed to enable the beach visitors to have sufficient room to recreate in less crowded conditions. Many of these visitors are tourists from out side of Miami-Dade County. "Wider is Better."

* Economics.

The economic benefits of beach renourishment to Miami-Dade County, Broward County, South Florida, Florida and the United States can best be verified by a survey of the people using Haulover Beach Park. There are many tourists from all over the world and they purchase local condos, rent local apartments seasonally, stay at area hotels, eat at area restaurants and shop here. Their contributions are, they pay taxes, create jobs and are a return on the investment of local, state and United States dollars spent to attract tourists to the area.

* Safety.

The renourishment of Haulover Beach will contribute to the safety of the area. A wider beach is a safer beach. The protection of "Evacuation Route" A1A is of paramount importance. This route is important to the residence of Bal Harbour and Sunny Isles as an escape route in an mandatory evacuation.